

# Alexander Hedbrant

## Postdoctoral Research Fellow

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The immune system is there to protect us from disease, but sometimes the immune cells gets activated for wrong reasons which can lead to the complete opposite; promotion of disease of various kind. My recently started research will look into how particles in the air can activate the immune system and potentially contribute to cardiovascular disease. The aim is to find a cut-off value for safe and hazardous levels of air particles, with focus on the particles present in foundry environments.

My previous research during my PhD studies focused on the immune system and how it can affect cancer progression, with a special emphasis on the immune cells termed macrophages. It was found that a special kind of macrophages termed "M1" has the potential to inhibit cancer cell growth of cancer cells derived from the colon or lungs. However; in certain situations, for instance during chemotherapy, the M1 macrophages were shown to instead have the potential to act in favor of the cancer cells.

Furthermore, I studied the anti-inflammatory potential of green, black and rooibos tea, and found that both green and black tea potently inhibits PGE2 formation in human monocytes *in vitro*, and the mechanism for the inhibition was elucidated.